CONFIDENTIAL WP

LAURA RIPLEY/R5/USEPA/US
04/18/2008 10:35 AM

To "Range, Lance" <Lance.Range@Illinois.gov>
cc
bcc LAURA RIPLEY/R5/USEPA/US
Subject RE: WP for Chemetco

Lance:

Thank you for incorporating those changes and revising the work plan accordingly. It is understood that there will be a minimum of 2 background samples taken in each media. In addition, during the ESI, IEPA will determine if there are manifest forms for the transport of the baghouse dust off the property and whether the spent refractory brick still remains on the property. There were two minor corrections in the misspelling of Chemetco in the last line of the bottom of page 8 and an addition of the word list on the second to last line on page 9.

Chemetco WORKPLAN 2008 wo maps doc

Therefore, I can approve the above work plan for the Expanded Site Inspection at Chemetco. Our database will record that the start date for the Expanded Site Inspection is April 18, 2008. Note: EPA does not approve the Site Safety Plan This is prepared to provide guidelines and procedures to protect the health and safety of IEPA personnel and other individuals who go on site.

This email will serve as EPA approval of the work plan.

Laura J. Ripley
Environmental Scientist
US EPA - Region 5
Mail Code: SR-6J
77 W Jackson Blvd
Chicago, IL 60604

PH: 312-886-6040
FAX: 312-353-8426
"Range, Lance" <Lance.Range@Illinois.gov>

"Range, Lance"
<Lance.Range@Illinois.gov>
04/18/2008 09:28 AM

To LAURA RIPLEY/R5/USEPA/US@EPA
cc

Subject RE: WP for Chemetco

Laura

Went through and made changes and corrected comments. Thanks

Lance L. Range
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
Springfield, IL 62794
217-524-1661
lance.range@illinois.gov

-----Original Message-----
From: ripley.laura@epamail.epa.gov [mailto:ripley.laura@epamail.epa.gov]

Sent: Wednesday, April 16, 2008 2:58 PM
To: Range, Lance
Subject: RE: WP for Chemetco

Try this word document and see if it works. If it doesn't, I'll fax it.

(See attached file: Chemetco WORKPLAN 2008 wo maps.doc)

"Range, Lance"
<Lance.Range@Illinois.gov>
04/16/2008 02:03 PM

To LAURA RIPLEY/R5/USEPA/US@EPA
cc

Subject RE: WP for Chemetco

Actually if you fax to 217-557-1165 might be easier, closer to my desk anyway. Thanks

Lance L. Range
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
Springfield, IL 62794
217-524-1661
lance.range@illinois.gov

-----Original Message-----
From: ripley.laura@epamail.epa.gov [mailto:ripley.laura@epamail.epa.gov]

Sent: Wednesday, April 16, 2008 1:55 PM
To: Range, Lance
Subject: RE: WP for Chemetco

I'll fax it to you with the comments. It is part of microsoft word. I had this problem with one of the other states too. Can I fax it to 2177823258?

Laura J. Ripley
Environmental Scientist
US EPA - Region 5
Mail Code: SR-6J
77 W Jackson Blvd
Chicago, IL 60604

PH: 312-886-6040
FAX: 312-353-8426

"Range, Lance"
<Lance.Range@Illinois.gov>

To

04/16/2008 01:46 PM

LAURA RIPLEY/R5/USEPA/US@EPA

cc

Subject
RE: WP for Chemetco

Laura

I have opened the WP and I don't see any comments. Could I possibly be doing something wrong to not see them? Or maybe you sent me the wrong version?

Lance L. Range
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
Springfield, IL 62794
217-524-1661
lance.range@illinois.gov

-----Original Message-----
From: ripley.laura@epamail.epa.gov [mailto:ripley.laura@epamail.epa.gov]

Sent: Wednesday, April 16, 2008 1:41 PM
To: Range, Lance
Subject: RE: WP for Chemetco

Thanks Lance. I'll look for your responses to the comments and the final revised work plan for my approval.

Laura J. Ripley
Environmental Scientist
US EPA - Region 5
Mail Code: SR-6J
77 W Jackson Blvd
Chicago, IL 60604

PH: 312-886-6040
FAX: 312-353-8426

"Range, Lance"
<Lance.Range@Illinois.gov>

To

04/16/2008 12:04 PM

LAURA RIPLEY/R5/USEPA/US@EPA

cc

Subject
RE: WP for Chemetco

Laura

I have contacted Illinois DNR with a map and request for wetlands and any species of animals which may be protected. From wetland inventory maps, there is viable wetlands for almost the entire length of Long Lake. So I am really waiting on a response from DNR for more specific info.

Long Lake is actually a glorified creek. It was practically dry when I visited in December, a few spots of water, and very shallow. Then we have had all of this rain and it is actually running outside of its banks. Have pics of surface water draining from site into wetland area :-). Also have pics of water leaving retaining pond and entering into the Long Lake. Actually to be honest the entire length of Chemecto could probably used for PPE. There is so much water that it was seeping from cracks in the road and also flowing under the make shift concrete ditch to seep into the wetland area.

Thanks for your thoughts on the project. Had a meeting with Bruce and Tom to discuss scoring options. They are both to be on the sampling team, so if any thing comes into question I will run by them.

Here is safety plan. Was approved by our resident safety officer.
Thanks

Lance L. Range
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
Springfield, IL 62794
217-524-1661
lance.range@illinois.gov

-----Original Message-----
From: ripley.laura@epamail.epa.gov [mailto:ripley.laura@epamail.epa.gov]

Sent: Wednesday, April 16, 2008 11:39 AM
To: Range, Lance
Subject: Re: WP for Chemetco

Lance:

I agree that the only way we probably can score the site is from the surface water pathway. Therefore, it is important to have someone delineate and confirm the wetland frontage and how much of it is contaminated. Note that you will have to have a background wetland

sample for comparison to the contaminated wetland sample. Are there any state/federal endangered species or threatened species in the area? Is there a fishery which we could try to document? For ground water you may have an observed release, but you will have to get additional information to confirm your potential contamination. Maybe I'm not understanding this, but is Long Lake a river?

I've put my comments in the text. Please call if you have any questions. I will also need a copy of the health and safety plan for my files.

(See attached file: Chemetco WORKPLAN 2008 wo maps.doc)

Let me know if you need additional assistance as I want to make sure that we get the data that we need to score the site.

Thanks,

Laura J. Ripley
Environmental Scientist
US EPA - Region 5
Mail Code: SR-6J
77 W Jackson Blvd
Chicago, IL 60604

PH: 312-886-6040
FAX: 312-353-8426

"Range, Lance"
<Lance.Range@Illinois.gov>
04/02/2008 03:05 PM

To
LAURA RIPLEY/R5/USEPA/US@EPA
cc

Subject
WP for Chemetco

Laura

Hi Laura. Here is the WP for Chemetco for review. I have to attach the maps separately due to "message size exceeded". Please take a look and see what you think. With the info available I think we are going to have to score on SW environmental pathway. I will try and see if I can find contaminants in res yards and wells, but not looking like that is going to happen.

Thanks...ESI Addendum is scheduled for May 5th.

Lance L. Range

Illinois Environmental Protection Agency
1021 N. Grand Avenue East
Springfield, IL 62794
217-524-1661
lance.range@illinois.gov
[attachment "quickscore 1.doc" deleted by LAURA RIPLEY/R5/USEPA/US]
[attachment "Chemetco WORKPLAN 2008 wo maps.doc" deleted by LAURA RIPLEY/R5/USEPA/US]
[attachment "chemetco safety plan.doc" deleted by LAURA RIPLEY/R5/USEPA/US]

[attachment "Chemetco WORKPLAN 2008 wo maps revised.doc" deleted by LAURA RIPLEY/R5/USEPA/US]

EXPANDED SITE INSPECTION WORK PLAN ADDENDUM

FOR

CHEMETCO

Prepared By:

Office of Site Evaluation
Bureau of Land
Illinois Environmental Protection Agency
1021 N. Grand Ave. E.
Springfield, IL 62794

I. SITE INFORMATION

Site name: **Chemetco**
ILD # 048 843 809
LPC# 1198010003

Site Location: Rt. 3 and Oldenberg Road
Hartford, IL
Madison County

Estimated Inspection Date: May 5-9, 2008, with groundwater sampling May 13-14, 2008

Work Plan Prepared By: Lance Range

Work Plan Approved By:

SITE HISTORY AND DESCRIPTION

The Chemetco facility is located at the intersection of Illinois Route 3 and Oldenberg Road, in an industrial and agricultural area in Madison County, Illinois. Chemetco operations were conducted on approximately 40-acres of land surrounded by a chain link fence. Chemetco owns an additional 230 acres of land surrounding the facility. The Chemetco facility is located in the former floodplain of the Mississippi River in an area referred to as the American Bottoms. The levee system in the area prevents the site from being flooded by the Mississippi now.

The Chemetco facility was constructed in 1969 and initiated operations as a copper smelter in 1970 to derive copper and other non-ferrous metals and alloys from recyclable copper-bearing scrap and manufacturing residues. The Chemetco facility produced anode copper, cathode copper and crude lead-tin solder. The facility generated four primary solid waste streams, which are waste slag, zinc oxide, baghouse dust, and spent refractory brick. In November 2001, the facility was shut down and filed for bankruptcy. The property is currently abandoned with the exception of a small crew to attempt to sell portions of the remaining products that were left at the site.

Waste slag at the Chemetco facility was generated from both water-cooled and air-cooled processes. This slag was stored on-site in large slag piles which remain at the facility. The zinc oxide generated on-site was also stored on-site in a large pile which remains at the facility. The facility operated four baghouses to control air emissions from the various operations of the smelter and slag granulation processes. The baghouse dust from all baghouses was transported off-site as hazardous waste. The spent refractory brick from the smelting operations was also stored on the facility in a pile.

II. SAFETY CONSIDERATIONS

PHYSICAL HAZARDS AT THE SITE

The sampling team will be collecting samples from Long Lake from a canoe. In addition, some of the slag piles are very large and have steep sides to climb. Safety precautions will be taken when sampling these areas to avoid problems.

CHEMICAL HAZARDS AT THE SITE

Throughout the site, earlier sampling has shown that high levels of metals exist. These metals include copper, lead and cadmium. The sampling team will be wearing Tyvek while working on the site and when needed, will be wearing respirators.

DERMAL AND RESPIRATORY PROTECTION

Level D protection will be used at all times, with continuous air monitoring during the sample collection. If an increase occurs, the following will be implemented:

0-5 units over background - Level C

5-50 units over background - Level B

50-100 units over background - Level A

EMERGENCY INFORMATION

Nearest Hospital:	Christian Hospital
Location:	11133 Dunn Road
	St. Louis, MO
	(Phone) 314-653-5000
Ambulance Service:	(Phone) 911
Fire Service:	(Phone) 911
Police:	(Phone) 911
Cellular Phone:	217-725-9115 (while on site)

III. FIELD ACTIVITIES

TEAM ASSIGNMENTS

NAME	DUTY
Lance Range	Project Manager
Bruce Everetts	Sampler/Safety Officer
Tom Crause	Sampler
Ken Corkill	Chain of Custody

FIELD WORK PROPOSED

	ACTIVITY	PROCEDURES
X	Ambient Air Sampling (OVA, HNU, etc.)	IEPA Methods Manual pp.19-23
X	Groundwater Sampling	IEPA Methods Manual pp.1-5
___	Surface Water Sampling	IEPA Methods Manual pp. 6-10
X	Soil/Sediment Sampling	IEPA Methods Manual pp.13-18
X	Tap Water Sampling	IEPA Methods Manual pp.11-12
___	Slope Determinations	IEPA Methods Manual pp.24-25
X	Water Level Measurements	IEPA Methods Manual p.31
X	Perimeter Survey	IEPA Methods Manual p.33
X	Site Inspection	IEPA Methods Manual pp.34-39
___	Soil Borings/Well Installation*	IEPA Methods Manual pp.26-30
___	Public Interviews	IEPA Methods Manual p.40
___	Groundwater Flow Determination	IEPA Methods Manual p.32
X	Decontamination Procedures	IEPA Methods Manual pp.41-56

*use of the Geoprobe

IV. SAMPLING

PROCEDURES

All samples will be collected in accordance with the Illinois EPA's Site Inspection Quality Assurance Project Plan (QAPP). Soil and sediment samples will be collected with stainless steel trowels or augers and put directly into sampling jars.

The Chemetco site has already been extensively sampled by the U.S. EPA and Illinois EPA. This has included extensive sampling of the wastes on the site itself as well as the local groundwater. The waterway that has received contaminants from the site is Long Lake which is located just south of the site. This lake has also been previously sampled. Because of these previous sampling events, the site and surrounding areas have already been very well characterized.

There are two basic goals of this Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sampling event. One is to help determine whether contaminants from the site have impacted the soils of the yards of nearby residences. This has not been previously conducted and will be done by screening and then possibly collecting soil samples from nearby residential areas. These are labeled on the sample location map (Figure 1) as samples X101 – X110. Residential groundwater samples are to be collected at four residences surrounding the site (G101-G105). These samples are to determine if onsite contaminants have been migrating in the groundwater. Residential groundwater sample locations can be found in Figure 2.

Monitoring wells are located on the facility. Three of these monitoring wells will be sampled to

determine if the contaminants from the site have impacted the groundwater. These samples are labeled G201-G205 in Figure 2.

The second goal of the sampling event is to collect the information necessary to score Chemetco for listing on the National Priorities List (NPL). Scoring this site for the NPL would potentially be necessary if no other entity is willing or able to cleanup the site in the future. To gain this information, a handful of onsite waste samples will be collected as well as sediments from Long Lake. At least 2 background samples will be collected in each media (soil, groundwater and sediment) to compare whether Chemetco has released contaminants into the environment. Previous sampling in Long Lake has shown that it has been impacted by the past activities on the facility. Long Lake has forested wetlands located along both shorelines in the vicinity of Chemetco. The proposed onsite waste samples are labeled as X501 – X510 (samples will be compared to background soil samples) in Figure 1. The proposed sediment samples in Long Lake are labeled as X201 – X226 (two samples will be background) in Figure 3.

In addition, a site reconnaissance for other possible sources in the area to the contamination in Long Lake will be recorded in the field log book.

LOCATION OF SAMPLES

SAMPLE #	MATRIX	LOCATION
X201 – X226	Sediment	see attached map
X101 – X110	Soil	see attached map

X501 – X510	Waste Pile Samples	see attached map
G101 – G106	Residential Groundwater	see attached map
G201-206	Monitoring Wells	see attached map

ANALYTICAL SERVICES

The inorganics on the U.S. EPA target analyte will be performed on all samples. The samples will be analyzed by the U.S. EPA's Contract Laboratory Program. At this time the exact lab performing the analysis is not known.

ATTACHMENT A

Records and Documentation to be Completed

X	Work Plan
X	Safety Plan
X	Sampling Plan
X	Equipment Checklist
X	Log Book
X	Chain of Custody Records
X	Sample Analysis Records
X	Photographs
_	Drilling Logs
X	Correspondence
_	Personal Interview Tapes or Transcripts
X	Maps
_	Instrument Calibration Records
_	Procurement Documents
_	Site Inspection Form (2070-13)
X	Quickscore Sheets
_	Other (specify)

Table 1
Hazardous Chemicals Associated with Chemetco Site

Lead

Cadmium

Zinc

Copper

SUMMARY TABLE OF SAMPLING AND ANALYSIS PROGRAM

SAMPLE MATRIX	FIELD PARAMETERS/LABORATORY PARAMETERS	Sample No.	Field Duplicate	Field Blanks	MS/MSD[2,3]	Matrix Total[4]
Surface Soils	Soil gas screening using HNu/OVA					
	CLP TAL metals-ILM	9	1	0	1	10
Sediments						
	CLP TAL metals-ILM	25	1	0	1	26
Waste						
	CLP TAL metals-ILM	9	1	0	1	10
Residential Groundwater						
	CLP TOTAL metals	4	1	1	1	6
	Filtered	4	1	1	1	6
	Unfiltered					
Groundwater (monitoring wells)						
	CLP TOTAL metals	4	1	1	1	6
	Filtered	4	1	1	1	6
	Unfiltered					

1. Additional sample volume for the matrix spike/matrix spike duplicate (MS/MSD) is required for organic analysis, except for the OLC SOW. Samples designated for MS/MSD analysis will be collected, with extra sample volumes, at a frequency of one per group of 20 or fewer investigative samples. Triple the normal sample volumes will be collected for VOAs, and double the normal sample volumes will be collected for SVOCs, pesticides and PCBs.

2. For inorganic analysis, no extra sample volume is required for the spike and duplicate analyses, however, samples for the spike and duplicate analysis should be identified on the field COC at a rate of one per group of 20 or fewer investigative samples.

**Volatile samples will be collected with ENCORE tubes.

3. The number of samples to be collected for MS/MSD are not included in the matrix total. The number of trip blank samples is also excluded from the matrix total.

Directions to Christian Hospital, St Louis, MO 63136-6119

START **Chemetco Ln, Hartford, IL 62048**

FINISH **11133 Dunn Rd, St Louis, MO 63136-6119**

Total Distance: 9.9 miles, Total Time: 13 mins (approx.)

		Distance	Action
	CHEMETCO LN, HARTFORD, IL 62048		
1.	Start at **CHEMETCO LN, HARTFORD** going toward **OLDENBURG RD**	go **0.1** mi	0.1 mi
2.	Turn **LEFT** on **OLDENBURG RD**	go **0.2** mi	0.3 mi
3.	Turn **LEFT** on **IL-3 S**	go **2.2** mi	2.5 mi
4.	Take ramp onto **I-270 W** toward **ST CHARLES**	go **6.3** mi	8.8 mi
5.	Take exit **#31B/ALTON IL** onto **LEWIS AND CLARK BLVD(MO-367 N)**	go **0.4** mi	9.2 mi
6.	Take ramp toward **DUNN RD/REDMAN RD**	go **0.3** mi	9.5 mi
7.	Turn **LEFT** on **DUNN RD**	go **0.3** mi	9.9 mi
8.	Arrive at **11133 DUNN RD, ST LOUIS,** on the **RIGHT**	go **< 0.1** mi	9.9 mi
	11133 DUNN RD, ST LOUIS, MO 63136-6119		

Distance: 9.9 miles, Time: 13 mins

FIGURE 1

Soil and Waste Sample Locations

Figure 2
Res. and Monitoring Well Locations

Figure 3
Sediment Sample Locations

SITE SAFETY PLAN
for
SMALL-SCALE, SHORT-DURATION HAZARDOUS WASTE OPERATIONS

I. SITE OVERVIEW

Site Name
Chemetco

Location
Hartford, Illinois

Tasks to be accomplished:

Task A
Collect waste samples from the facility.

Task B
Collect residential soil samples from nearby residences.

Task C
Collect sediment samples from nearby Long Lake.

Task D
Collect residential well samples and monitoring well samples (May 13-14, 2008).

Start Date/Time:	05-5-2008	Complete Date/Time:	05-14-2008

Site Description/History

The Chemetco facility is located at the intersection of Illinois Route 3 and Oldenberg Road, in an industrial and agricultural area in Madison County, Illinois. Chemetco operations were conducted on an approximately 40-acre parcel of land surrounded by a chain link fence. Chemetco owns an additional 230 acres of land surrounding the facility. The Chemetco facility is located in the former floodplain of the Mississippi River in an area referred to as the American Bottoms. The levee system in the area prevents the site from being flooded by the Mississippi now.

The Chemetco facility was constructed in 1969 and initiated operations as a copper smelter in

1970 to derive copper and other non-ferrous metals and alloys from recyclable copper-bearing scrap and manufacturing residues. The Chemetco facility produced anode copper, cathode copper and crude lead-tin solder. The facility generated four primary solid waste streams, which are waste slag, zinc oxide, baghouse dust, and spent refractory brick. In November of 2001, the facility was shut down and filed for bankruptcy. The property is currently abandoned with the exception of a small crew to attempt to sell portions of the remaining products that were left at the site.

Waste slag at the Chemetco facility was generated from both water-cooled and air-cooled processes. This slag was stored on-site in large slag piles which remain at the site today. The zinc oxide generated on-site was also stored on-site in a large pile which remains at the site. The facility operated four baghouses to control air emissions from the various operations of the smelter and slag granulation processes. The baghouse dust from all baghouses was transported off-site as hazardous waste. The spent refractory brick from the smelting operations was also stored on-site in a pile.

Topography
Flat. Mostly covered with slag and concrete.

Surrounding Population
Rural with small number of farm houses.

II. PERSONNEL

	Duty/Name
1	Lance Range, Project manager
2	Bruce Everetts, sampler and site safety officer
3	Tom Crause, sampler
4	Ken Corkill, chain of custody
5	
6	

III. HAZARD EVALUATION

Chemical hazards anticipated:

Chemical Name	PEL	IDLH	IP	Relative Response	LEL	Route of Entry
Lead	.05 mg/m3	100 mg/m3	NA		NA	Inhalation, ingestion, contact

Chemical Name	PEL	IDLH	IP	Relative Response	LEL	Route of Entry
Cadmium	.005 mg/m3	9 mg/m3	NA		NA	Inhalation, ingestion

Chemical Name	PEL	IDLH	IP	Relative Response	LEL	Route of Entry
Copper	1 mg/m3	100 mg/m3	NA		NA	Inhalation, ingestion, contact

Chemical Name	PEL	IDLH	IP	Relative Response	LEL	Route of Entry

Physical hazards anticipated:

Hazard:	Collecting sediment samples from a small river from a canoe.
Hazard control:	Will have life jackets and water is only a few feet deep.

Hazard:	
Hazard control:	

IV. SITE CONTROL

Description of Exclusion Zone and Boundaries (Site Map Attached)
Area 25 feet around sampling points.

Description of Contamination Reduction Zone and Boundaries
Property boundaries.

Description of Support Zone and Boundaries
Also property boundaries.

Hand signals
1. Hands gripping throat ----------Out of air, can't breathe 2. Grip partner's wrist or both hands around waist ----------Leave area immediately 3. Hands on top of head ----------Need assistance 4. Thumbs up ----------OK, I am all right, I understand 5. Thumbs down ---------- No, negative

Standard Operating Procedures:

A. *Sampling procedures: Conduct sampling in accordance with the IEPA BOL Sampling Procedures* Guidance Manual.

B. Excavations: if excavations will be made, comply with the Underground Utility Facilities Damage Prevention Act by contacting JULIE at least two working days in advance at 800-892-0123. The Act defines Aexcavation≅ as A...any operation in which earth, rock, or other material in or on the ground is *moved, removed, or otherwise displaced by means of any tools....≅*

C. Permit-required Confined Spaces: A permit-required confined space is an area that has limited means for entry and exit, was not designed for continuous employee occupancy, and has the potential *to contain a serious health or safety hazard (usually a hazardous atmosphere). Examples include* manholes, tanks, vaults, excavations. IEPA personnel are not authorized to enter permit-required confined spaces.

D. *Heat Stress:* At *temperatures above 80 degrees F., especially when PPE is used, heat stress is* often the greatest site hazard. Provide appropriate cooling equipment, cooled drinking fluids, and frequent breaks. Provide at least ten gallons of water at the site for drenching. Prevent and treat heat stress in accordance with your first aid training.

E. Material Safety Data Sheets: Obtain MSDS for known chemical hazards and attach for review by all site personnel.

F. All personnel arriving or departing the site should log in and out with the Record-keeper. All activities on site must be cleared through the Project Team Leader. There will be a minimum of two people assigned to each task (buddy system).

G. Normal and Emergency Communications: A cell phone is mandatory.

H. If adverse weather is possible, monitor a local radio broadcast station or other service to stay abreast of the weather.

I. All operations and equipment will comply with OSHA Regulations 29 CFR 1910.120 and other applicable elements of OSHA 29 CFR 1910 and 1926. Before site operations begin all employees involved in these operations will have read and understood this site safety plan.

J. Training and medical monitoring: All routine site personnel are required 40-hour HAZWOPER training and medical monitoring. Employees with 24-hour training may perform specific tasks, provided that it is ensured that they will not be exposed to health hazards above permissible exposure limits. Visitors or support personnel who remain in the support zone are not required health and safety training.

K. Opening drums and containers: due to the possibility of internal pressurization, either shielding or a remote drum opener shall be used.

L. Other:

V. PERSONAL PROTECTIVE EQUIPMENT

Based on evaluation of potential hazards, the following levels of personal protective equipment have been designated for the applicable work areas or tasks. No changes to the specified levels of protection shall be made without the approval of the site safety officer and the project team leader.

Work Area/Zone	Job Function/Task	Level of Protection: B C D Other
On-site/In buildings	**Waste sampling**	**C**

Work Area/Zone	Job Function/Task	Level of Protection: B C D Other
On-site/Outside of Buildings	Soil and waste sampling	Modified Level D

Work Area/Zone	Job Function/Task	Level of Protection: B C D Other
Off site in residential yards	Soil and groundwater sampling	Level D

Work Area/Zone	Job Function/Task	Level of Protection: B C D Other
Off-site in Long Lake	Sediment sampling	Level D

The following specific PPE items have been selected:

	Latex gloves	x	*Nitrile gloves*		*Neoprene gloves*
	Butyl gloves		Silver Shield gloves		Hazmax Chemical boots
x	Latex outer boots	x	Tyvek coveralls		Saranex coveralls
x	APR Respirator		SCBA	x	Hardhat
x	APR Cartridge:	x	Safety Glasses	x	Safety Goggles
	Ear Protection		Cotton Coveralls		Other:
	Other:		Other:		Other:

VI. AIR MONITORING

The following air monitoring instruments shall be used on-site at the specified intervals.

	Instrument type	Frequency
	PID	
	TVA	
	Oxygen indicator/Combustible	
	Detector tubes:	
	Personal air pump	
x	**Other: visual observations of blowing dust**	Constant – if dust blowing will wear respirators on site

Action level responses
Unknown gas/vapor PID/FID reading above background to 5 ppm: use level C protection
Unknown gas/vapor PID/FID reading 5 to 500 ppm: use level B protection
Unknown gas/vapor PID/FID reading above 500 ppm: evacuate/control the hazard
Known gas/vapor PID/FID reading greater than half the PEL: use level C protection
Known gas/vapor PID/FID reading IDLH: use SCBA/control the hazard
Oxygen below 19.5%: use SCBA/control the hazard
Combustible gas indicator: at or above 10% LEL: evacuate.
Other:

VII. DECONTAMINATION PROCEDURES

Wear disposable coveralls, disposable outer boots, and disposable outer gloves. Avoid walking on, kneeling on, or sitting on contaminated surfaces. Avoid contaminating any non-disposable clothing or equipment. Use private contractor's decontamination facilities if established. Decontamination stations shall be set up before personnel enter the exclusion zone. Personnel and equipment leaving the exclusion zone shall be thoroughly decontaminated. Any PPE utilized will be removed, bagged, and left on site in bags or drums. Decon equipment includes garbage bags, □Wet Ones,□ paper towels, Visqueen, Alconox, wash tubs, water, pressure water sprayer.

The following example of personal decontamination is based on the exclusive use of disposable boot covers, gloves, and coveralls.
Steps:

1. Segregated equipment drop
2. Remove outer booties and outer gloves
3. Remove coveralls
4. Remove first pair of inner gloves
5. Remove hard hat
6. Remove respirator
7. Remove second pair of inner gloves
8. Replace hard hat and put on eye protection until leaving the site
9. Wash hands

When possible use disposable sampling equipment and leave at the site. Reusable, non-disposable equipment (stainless steel spoons, split spoons, measuring tape, etc) will be decontaminated before removal from the site. The minimum decontamination procedure for all equipment is as follows:

1. Water rinse
2. Soap wash (Alconox)
3. Water rinse
4. Air dry
5. Seal with aluminum foil

VIII. EMERGENCY PROCEDURES

The Site Safety Officer shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedures are followed.

Written Directions to the Selected Hospital (Map Attached)
See attached page for both written directions and a map.

Personnel Injury in the Exclusion Zone: Upon notification of an injury in the Exclusion Zone, all site personnel shall assemble at the decontamination line. The rescue team will enter the Exclusion Zone (if required) to remove the injured person to the hotline. The Site Safety Officer and Project Team Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement to the Support Zone. Appropriate first aid shall be initiated, and contact should be made for an ambulance and with the designated medical facility (if required). No persons shall reenter the Exclusion Zone until the cause of the injury or symptoms are determined.

Personnel Injury in the Support Zone: Upon notification of an injury in the Support Zone, the Project Team Leader and Site Safety Officer will assess the nature of the injury. If the cause of the injury does not affect the performance of site personnel, operations may continue, with the on-site first aid initiated and necessary follow-up as stated above. If the injury increases the risk to others, all site personnel shall move to the decontamination line for further instructions. Activities on site will stop until the added risk is removed or minimized.

Fire/Explosion: Upon notification of a fire or explosion on site, all site personnel shall be assembled at the decontamination line. The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

Personal Protective Equipment Failure: If any site worker experiences a failure or malfunction of protective equipment that affects the protection factor that person and his/her buddy shall immediately leave the Exclusion Zone. Reentry shall not be permitted until the equipment has been repaired or replaced.

Other Equipment Failure: If any other equipment on site fails to operate properly, the Project Team Leader and Site Safety Officer shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Exclusion Zone until the situation is evaluated and appropriate actions taken.

In all situations, when an on-site emergency results in evacuation of the Exclusion Zone, personnel shall not re-enter until:

1. The conditions resulting in the emergency have been corrected.
2. The hazards have been reassessed.
3. The Site Safety Plan has been reviewed
4. Site personnel have been briefed on any changes in the Site Safety Plan.

First-aid equipment available on-site: First-aid kit, emergency eye wash.

List of emergency phone numbers
Police:911
Fire:911
Ambulance:911
Hospital: 314-653-5000

IX. CERTIFICATION

Personnel signing below certify that they understand the site work plan, understand this site safety plan, and have completed the required training and medical monitoring.

Required: 40-HourTraining:	X	24-Hour:		None:		Medical monitoring required (yes/no):	Y
Completed: 40-Hour:	x	24-Hour:		None:		Medical monitoring completed (yes/no):	Y
Duty/Name/Signature: Lance Range/PM//SIGNED//							

Required: 40-HourTraining:	x	24-Hour:		None:		Medical monitoring required (yes/no):	Y
Completed: 40-Hour:	x	24-Hour:		None:		Medical monitoring completed (yes/no):	Y
Duty/Name/Signature: Bruce Everetts /Sampler							

Required: 40-HourTraining:	X	24-Hour:		None:		Medical monitoring required (yes/no):	Y
Completed: 40-Hour:	x	24-Hour:		None:		Medical monitoring completed (yes/no):	Y
Duty/Name/Signature: Tom Crause/Sampler							

Required: 40-HourTraining:	X	24-Hour:		None:		Medical monitoring required (yes/no):	Y
Completed: 40-Hour:	x	24-Hour:		None:		Medical monitoring completed (yes/no):	Y
Duty/Name/Signature: Ken Corkill/COC							

Plan prepared by: Lance Range Signature: //SIGNED//
Date: 04-02-2008

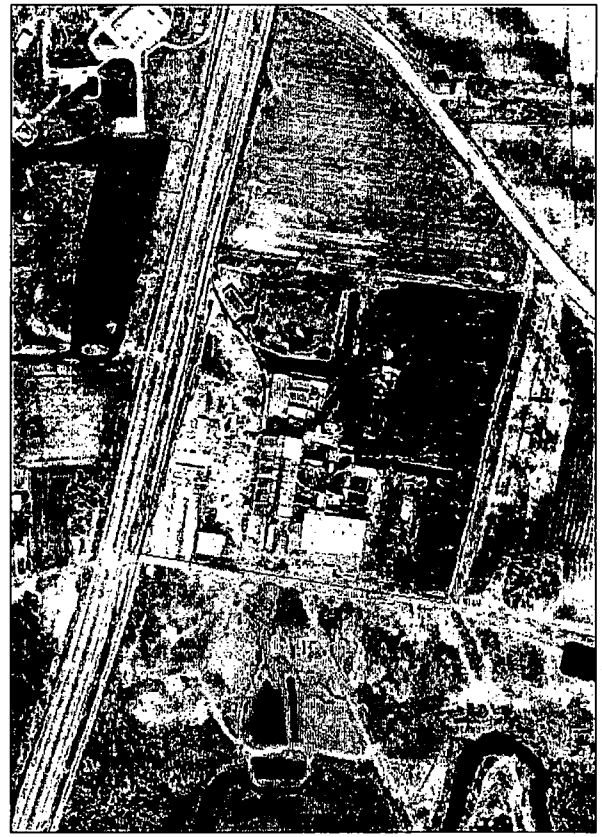
Plan approved by: Tom Crause Signature:
Date:

Plan approved by: Blaine Kinsley Signature: //SIGNED//
Date:

X. APPENDICES: Appendix A: Site Map, Appendix B: Route to Hospital

APPENDIX A
SITE MAP

Chemetco Overview



APPENDIX B

Directions to Christian Hospital, St Louis, MO 63136-6119

START **Chemetco Ln, Hartford, IL 62048**

FINISH **11133 Dunn Rd, St Louis, MO 63136-6119**

Total Distance: 9.9 miles, Total Time: 13 mins (approx.)

		Distance
1.	Start at **CHEMETCO LN, HARTFORD** going toward **OLDENBURG RD**	go **0.1** mi 0.1 mi
2.	Turn **LEFT** on **OLDENBURG RD**	go **0.2** mi 0.3 mi
3.	Turn **LEFT** on **IL-3 S**	go **2.2** mi 2.5 mi
4.	Take ramp onto **I-270 W** toward **ST CHARLES**	go **6.3** mi 8.8 mi
5.	Take exit **#31B/ALTON IL** onto **LEWIS AND CLARK BLVD(MO-367 N)**	go **0.4** mi 9.2 mi
6.	Take ramp toward **DUNN RD/REDMAN RD**	go **0.3** mi 9.5 mi
7.	Turn **LEFT** on **DUNN RD**	go **0.3** mi 9.9 mi
8.	Arrive at **11133 DUNN RD, ST LOUIS**, on the **RIGHT**	go **< 0.1** mi 9.9 mi

Distance: 9.9 miles, Time: 13 mins